

Serial No.10/628,098

Listing of Claims:

~~Claim 1~~ (currently amended) A lightweight heat resistant and insulative composite product sheet, containing glass fibers, consisting essentially of:

- a) homogenized glass fiber and binder material forming a first layer,
- b) binder material extending in a second layer adjacent the first layer and bonded thereto,
- c) woven glass fiber facing cloth extending in a third layer adjacent the second layer and bonded thereto so that the second layer is sandwiched between the first and third layers,
- d) binder material in the layers being cured at elevated temperature between about 425°F and 475°F, and during a time interval between 2 and 4 minutes, to integrate the layers, and
- e) the bulk of the fibers in said first layer having diameters between .00003 and .00015 inch.

Claim 2 (cancelled)

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Claim 3 (previously presented) The composite sheet of claim 1 wherein the first layer has a density of about 3/4 pound per sheet cubic foot, the product sheet having between about 0.75 and 4.0 inch thickness and from 0.5 to 4.0 pounds per cubic foot density.

3
Claim 4 (original) The composite sheet of claim 1 wherein said second layer binder has a sprayed on and cured in situ configuration adjacent the first layer.

4
Claim 5 (original) The composite sheet of claim 1 wherein the bulk of the glass fibers in said first layer have length between about 1 and 2 microns.

5
Claim 6 (previously presented) The composite of claim 1 wherein the first layer consists of about 80% by weight of glass fibers and about 20% by weight of binder, said fibers and binder being homogenized.

6
Claim 7 (currently amended) The composite sheet of claim 1 wherein said first layer has a ~~wool-like consistency, and a~~ density between 0.5 and 4.0 pounds per cubic foot.

7
Claim 8 (currently amended) A lightweight heat resistant and insulative composite product sheet, containing glass fibers, consisting essentially of:

- a) homogenized glass fiber and binder material forming a first layer,
- b) binder material extending in a second layer adjacent the first layer and bonded thereto,
- c) woven glass fiber facing cloth extending in a third layer adjacent the second layer and bonded thereto so that the second layer is sandwiched between the first and third layers,
- d) binder material in the layers being cured at elevated temperature between about 425°F and 475°F, and during a time interval between 2 and 4 minutes, to integrate the layers,
- e) ~~said first layer having a wool-like consistency,~~
- e) ~~f)~~ and wherein first layer density is about 0.75 pounds per cubic foot.

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~~Claim 9~~ (original) The composite sheet of claim 1 wherein the facer cloth has a binder content of less than 10% by weight of said cloth, and is adherent to a surface of the second layer, so that the second layer is sandwiched between and integrates the first and third layers.

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~~Claim 10~~ (currently amended) A lightweight heat resistant and insulative composite product sheet, containing glass fibers, consisting essentially of:

- a) homogenized glass fiber and binder material forming a first layer,
- b) binder material extending in a second layer adjacent the first layer and bonded thereto,
- c) woven glass fiber facing cloth extending in a third layer adjacent the second layer and bonded thereto so that the second layer is sandwiched between the first and third layers,
- d) binder material in the layers being cured at elevated temperature between about 425°F and 475°F, and during a time interval between 2 and 4 minutes, to integrate the layers,
- e) said facer cloth having a binder content of less than 10% by weight of said cloth, and is adherent to a surface of the second layer, so that the second layer is

sandwiched between and integrates the first and third layers,

f) and wherein the facer cloth has weight between 20 and 60 grams per square foot, and consists of woven glass fibers.

~~11~~ 11

Claim ~~11~~ (previously presented) The composite sheet of claim ~~12~~¹⁰ wherein the glass fibers in the first layer have diameters between .00003 and .00015 inch.

~~10~~ 10

Claim ~~12~~ (previously presented) A lightweight heat resistant and insulative composite product sheet, containing glass fibers, consisting essentially of:

- a) homogenized glass fiber and binder material forming a first layer,
- b) binder material extending in a second layer adjacent the first layer and bonded thereto,
- c) woven glass fiber facing cloth extending in a third layer adjacent the second layer and bonded thereto so that the second layer is sandwiched between the first and third layers,
- d) binder material in the layers being cured, to integrate the layers,

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e) said sheet having density of from 0.5 to 4.0 pounds per cubic foot.

¹²
Claim ~~13~~ (currently amended) The composite sheet of claim 1 which has between ~~0.25~~ 0.75 and 4.0 inch thickness.

¹³
Claim ~~14~~ (currently amended) The method which comprises:

- i. forming a composite sheet as defined in claim 1,
- ii. and including drying and curing said sheet, at elevated temperature, while being transported on a conveyor.

¹⁴
Claim ~~15~~ (currently amended) The method of forming a lightweight heat resistant and insulative composite product sheet, containing glass fibers, consisting essentially of:

- a) homogenized glass fiber and binder material forming a first layer,
- b) binder material extending in a second layer adjacent the first layer and bonded thereto,

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c) woven glass fiber facing cloth extending in a third layer adjacent the second layer and bonded thereto so that the second layer is sandwiched between the first and third layers,

d) binder material in the layers being cured, to integrate the layers, and said method including drying and curing said sheet, at elevated temperature, while being transported on a conveyor, and wherein said elevated temperature is between about 425°F and 475°F.

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Claim ~~16~~ (currently amended) The method of forming a lightweight heat resistant and insulative composite product sheet, containing glass fibers, consisting essentially of:

a) homogenized glass fiber and binder material forming a first layer,

b) binder material extending in a second layer adjacent the first layer and bonded thereto,

c) woven glass fiber facing cloth extending in a third layer adjacent the second layer and bonded thereto so that the second layer is sandwiched between the first and third layers,

d) binder material in the layers being cured, to integrate the layers, and said method including drying and

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curing said sheet, at elevated temperature, while being transported on a conveyor, said drying and curing at elevated temperature being completed during a time interval between 2 and 4 minutes.

~~16~~
Claim 17 (currently amended) The method of forming a lightweight heat resistant and insulative composite product sheet, containing glass fibers, consisting essentially of:

- a) homogenized glass fiber and binder material forming a first layer,
- b) binder material extending in a second layer adjacent the first layer and bonded thereto,
- c) woven glass fiber facing cloth extending in a third layer adjacent the second layer and bonded thereto so that the second layer is sandwiched between the first and third layers,
- d) binder material in the layers being cured, to integrate the layers, and
- e) said method including drying and curing said sheet, as elevated temperature, while being transported on a conveyor, and
said method including spraying said binder onto an irregular upper surface of said first layer.

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Claim ~~18~~ (currently amended) The method of forming a lightweight heat resistant and insulative composite product sheet, containing glass fibers, consisting essentially of:

- a) homogenized glass fiber and binder material forming a first layer,
- b) binder material extending in a second layer adjacent the first layer and bonded thereto,
- c) woven glass fiber facing cloth extending in a third layer adjacent the second layer and bonded thereto so that the second layer is sandwiched between the first and third layers,
- d) binder material in the layers being cured, to integrate the layers, and
- e) said method including drying and curing said sheet, at elevated temperature, while being transported on a conveyor, and wherein the binder consists of synthetic resin.

19
Claim ~~19~~ (original) The method of claim ~~18~~ 17
wherein said resin consists of phenol formaldehyde.

19

~~Claim 20~~ (currently amended) The method of forming a lightweight heat resistant and insulative composite product sheet, containing glass fibers, consisting essentially of:

- a) homogenized glass fiber and binder material forming a first layer,
- b) binder material extending in a second layer adjacent the first layer and bonded thereto,
- c) woven glass fiber facing cloth extending in a third layer adjacent the second layer and bonded thereto so that the second layer is sandwiched between the first and third layers,
- d) binder material in the layers being cured, to integrate the layers, and said method including drying and curing said sheet, at elevated temperature, while being transported on a conveyor, and including progressively feeding said facing cloth onto said sprayed on binder layer just prior to said step ii) of claim 14.

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~~Claim 21~~ (currently amended) The method of forming a lightweight heat resistant and insulative composite product sheet, containing glass fibers, consisting essentially of:

- a) homogenized glass fiber and binder material forming a first layer,
- b) binder material extending in a second layer adjacent the first layer and bonded thereto,
- c) woven glass fiber facing cloth extending in a third layer adjacent the second layer and bonded thereto so that the second layer is sandwiched between the first and third layers,
- d) binder material in the layers being cured, to integrate the layers, and
- e) said method including drying and curing said sheet, as elevated temperature, while being transported on a conveyor, and wherein the binder material consists of synthetic resin.

²¹
Claim ~~22~~ (previously presented) The method of claim ²⁰ ~~21~~ wherein the binder material consists of phenol formaldehyde.

²²
Claim ~~23~~ (previously presented) The assembly which comprises a metallic panel, fasteners projecting from the panel, and the product sheet applied to the panel to form a facing, with the fasteners projecting through the product sheet, said product being a lightweight, heat

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resistant and insulative composite product sheet, containing glass fibers, consisting essentially of:

- a) homogenized glass fibers and binder material forming a first layer,
- b) binder material extending in a second layer adjacent the first layer and bonded thereto,
- c) woven glass fiber facing cloth extending in a third layer adjacent the second layer and bonded thereto so that the second layer is sandwiched between the first and third layers,
- d) binder material in the layers being cured, to integrate the layers.

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Claim ~~24~~ (previously presented) The

22 assembly of

claim ~~23~~ including holders on the fasteners to hold the product sheet against the panel.

24

23

Claim ~~25~~ (original) The assembly of claim ~~24~~

wherein the fasteners comprise studs, and the holders comprise washers received on the studs, and caps frictionally retained on the ends of the studs to hold the washers in position.